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| 10/811,983 | 03/30/2004 | Atul Puri | 13316-3295 | 3131 |

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| EXAMINER | |
|---|---|
| HOLDER, ANNER N | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/811,983 | PURI ET AL. | |
| | Examiner | Art Unit | |
| | ANNER HOLDER | 2621 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *29 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-35 and 37-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *1-33 and 48-53* is/are allowed.

6)☒ Claim(s) *34-35 and 37-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 July 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Argument*

1. Applicant's arguments with respect to claims 34-47 have been considered but are moot in view of the new ground(s) of rejection.

### *Allowable Subject Matter*

2. Claims 1-33, 48-53 are allowed.

3. The following is an examiner's statement of reasons for allowance: independent claims represent the formula as presented in paragraphs 71-74 and 78-80 of pages 16-18 of the Applicant's specification.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Claims 40-47 contain allowable subject matter. However, they are rejected below under 35 USC. § 101.

### *Claim Rejections - 35 USC § 101*

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 44-47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 44-47 are directed toward software or

code that is not embodied on a non-transitory computer readable medium, which is non-statutory subject matter.

7. Claims 40-43 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent and recent Federal Circuit decisions indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example the method for controlling the rate and quality for an AVC-based video coder including the steps of "generating complexity indicators", "generating a first quantizer estimate", "generating a second quantizer estimate", "generating a quantizer parameter for each picture", "determining a rate control policy" is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally, or without a machine. The Applicant has not tied the method for controlling the rate and quality for an AVC-based video coder including the steps of "generating complexity indicators", "generating a first quantizer estimate", "generating a second quantizer estimate", "generating a quantizer parameter for each picture", "determining a rate control policy" to a particular apparatus to perform the method as claimed.

The Applicant has provided no explicit and deliberate definitions of "generating

complexity indicators", "generating a first quantizer estimate", "generating a second quantizer estimate", "generating a quantizer parameter for each picture", "determining a rate control policy" to limit the steps to the electronic from of the method, and the claim language itself is sufficiently broad to read on a printout, mentally stepping through the § 101 analysis.

[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).
[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 34, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagihara US 5,374,958 in view of Sugiyama US 6,940,911 B2 further in view of Honda et al. US 2002/0009139.

10. As to claim 34, Yanagihara teaches a rate controller having an input coupled to a source of video data and generating a quantizer selection on a picture-by-picture basis, [Abstract; fig. 11; fig. 14; col. 12 lines 6-9; col. 14 lines 6-8] a video prediction chain to generate predicted video data on a block-by-block basis, [fig. 11; col. 12 lines 6-9; col. 14 lines 6-8] and a quantizer to receive data output from the transform circuit, the

quantizer operative according to a quantizer parameter output from the rate controller. [fig. 11; fig. 14; col. 12 lines 6-9; col. 14 lines 6-8]

Yanagihara does not explicitly teach as to a block-based video coding chain including: a subtractor coupled to the source video data and to the video prediction chain, a transform circuit, to receive data output from the subtractor.

Sugiyama teaches a block-based video coding chain including: a subtractor coupled to the source video data and to the video prediction chain, a transform circuit, to receive data output from the subtractor. [fig. 1; figs. 6-7; col. 10 lines 52-67; col. 14 lines 42-50; col. 15 lines 1-22]

It would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Sugiyama teaches with the device of Yanagihara to improve image quality and coding efficiency.

Yanagihara (modified by Sugiyama) does not explicitly teach the video coding chain deletes motion vectors under control of the rate controller

Honda teaches the video coding chain deletes motion vectors under control of the rate controller. [fig. 9; ¶ 0175; ¶0179]

It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teachings of Honda with the device of Yanagihara (modified by Sugiyama) allowing for improved image quality. [Honda - ¶ 0013]

11. As to claim 38, Yanagihara (modified by Sugiyama and Honda) teaches video prediction chain comprises a prediction mode decision unit whose mode of operation is

controlled by the rate controller. [Sugiyama - fig. 1; figs. 6-7; fig. 11; fig. 14; col. 10 lines 52-67; col. 14 lines 42-50; col. 15 lines 1-22, 61-67; col. 16 lines 3-7]

12. As to claim 39, Yanagihara (modified by Sugiyama and Honda) teaches a video preprocessor that performs picture decimation under control of the rate controller. [Sugiyama - Fig. 7; Fig. 11; Fig. 14; Col. 15 lines 10-19, 61-67; Col. 16 lines 3-7]

13. Claim 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagihara US 5,374,958 in view of Sugiyama US 6,940,911 B2 further in view of Honda et al. US 2002/0009139 further in view of Alattar et al. (Simpson) US 7,567,721.

14. As to claim 35, Yanagihara (modified by Sugiyama and Honda) teaches the limitations of claim 34.

Yanagihara (modified by Sugiyama and Honda) does not explicitly teach the video coding chain further deletes transform coefficients under control of the rate controller.

Alattar teaches the video coding chain further deletes transform coefficients under control of the rate controller [col. 15 lines 22-35]

It would have been obvious to one of ordinary skill in the art to combine the teachings of Alattar with the device of Yanagihara (modified by Sugiyama and Honda) improving coding efficiency and maintaining and/or improving the bit rate.

15. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view of Sugiyama US 6,940,911 B2 in view of Honda et al. US 2002/0009139 further in view of Tsuru US 6,950,040 B2.

16. As to claim 37, Yanagihara (modified by Sugiyama and Honda) teach the limitations of claim 34.

Yanagihara (modified by Sugiyama and Honda) silent as to the video prediction chain comprises a deblocking filter whose mode of operation is controlled by the rate controller

Tsuru teaches the video prediction chain comprises a deblocking filter whose mode of operation is controlled by the rate controller. [fig. 2; col. 1 lines 12-15; col. 6 lines 3-12]

It would have been obvious at the time the invention was made to combine the deblocking filtering teachings of Tsuru with the device of Yanagihara (modified by Sugiyama and Honda) improving image quality.

***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-W, M-W 8 am-3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2621

/Tung Vo/
Primary Examiner, Art Unit 2621